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09/788,672	02/21/2001	Makoto Oyanagi	Q62837	6037

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EXAMINER

THOMPSON, JAMES A

ART UNIT PAPER NUMBER

2624

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/788,672

Applicant(s)

OYANAGI ET AL.

Examiner

James A Thompson

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 18 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 18 is a program which is not embodied in a tangible form. It is not a process, machine, manufacture, and/or composition of matter and is therefore non-statutory subject matter and not patentable.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2624

Claim 19 recites a program data signal embodied in a carrier wave comprising various steps. This is inherently contradictory since a program data signal is a *signal* and therefore cannot comprise steps. A program data signal can only comprise elements of the signal. Therefore, in claim 19, Applicant has failed to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

### ***Prelude to Prior Art Rejections***

6. Claim 1 discloses a printer. Claim 16 discloses a printing method. Claim 17 discloses a computer program embodied in a recording medium. Claim 18 discloses a computer program. The printer of claim 1 performs the printing method of claim 16 and the steps of the computer programs of claims 17 and 18. Therefore, claims 1, 16, 17 and 18 are discussed together.

7. Examiner notes that claim 15, as written, is dependent upon claim 2, but comes after claim 12, upon which claims 13 and 14 are dependent. Since this could easily be a typographical error, Applicant is advised to check and make sure that the dependency of claim 15 is as Applicant intends.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2624

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 9-11 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeoka (US Patent 6,665,082 B1) in view of Sakurai (US Patent 5,924,802).

**Regarding claims 1 and 16-18:** Takeoka discloses a printer (figure 2 of Takeoka) comprising a clearer (figure 2(21) and column 9, lines 66-67 of Takeoka) configured to clear printing data received (column 12, lines 63-65 of Takeoka) from a computer (figure 9 and column 12, lines 58-62 of Takeoka) and stored in a data buffer (figure 2(22) of Takeoka) when a printer deactivation command is received (column 12, lines 63-64 of Takeoka).

Takeoka does not disclose expressly a detector configured to detect that a printer cable, which is connected to a computer, is unplugged; and that said clearer clears said printing data when said detector detects that the printer cable has been unplugged.

Sakurai discloses a detector (figure 1(8) and column 3, lines 32-33 of Sakurai) configured to detect that a printer cable, which is connected to a computer (figure 1 (100) and column 3, lines 21-25 of Sakurai), is unplugged (column 6, lines 8-13 of Sakurai).

Takeoka and Sakurai are combinable because they are from the same field of endeavor, namely the control of printers and printer data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the detector taught by Sakurai to detect that a printer cable has been disconnected. Since a printer

Art Unit: 2624

cable disconnect signal would also indicate that the printer has been deactivated (no longer able to be used), said clearer would clear said printing data upon receiving said disconnect signal. The motivation for doing so would have been that a printer cable connection is required for the print data to properly process, as demonstrated by the fact that checking for a print cable connection is a necessary step (figure 5(105) of Sakurai) in transferring print data to the printer for a print-output (figure 5 and column 6, lines 14-16 and lines 25-27 of Sakurai). Therefore, it would have been obvious to combine Sakurai with Takeoka to obtain the invention as specified in claims 1 and 16-18.

Further regarding claims 17 and 18, Takeoka discloses performing the operations of the printer using a program stored on a recording medium (figure 2(23) and column 10, lines 3-4 of Takeoka).

**Regarding claim 9:** Takeoka discloses a printer (figure 2 of Takeoka) comprising a data buffer (figure 2(22) of Takeoka) configured to temporarily store printing data received from a computer (figure 9 and column 12, lines 58-64 of Takeoka); and a clearer (figure 2(21) and column 9, lines 66-67 of Takeoka) configured to clear the printing data stored in the data buffer when a printer deactivation command is received (column 12, lines 63-64 of Takeoka).

Takeoka does not disclose expressly a cable detector configured to detect whether a printer cable, which is connected to a computer, is plugged normally or not; and that said clearer clears said printing data when said cable detector detects that the printer cable has been unplugged.

Sakurai discloses a cable detector (figure 1(8) and column 3, lines 32-33 of Sakurai) configured to detect whether a printer cable, which is connected to a computer (figure 1 (100) and column 3, lines 21-25 of Sakurai), is plugged normally or not (column 6, lines 8-13 of Sakurai).

Takeoka and Sakurai are combinable because they are from the same field of endeavor, namely the control of printers and printer data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the cable detector taught by Sakurai to detect whether a printer cable has been connected normally or not. Since a printer cable disconnect signal would also indicate that the printer has been deactivated (no longer able to be used), said clearer would clear said printing data upon receiving said disconnect signal. The motivation for doing so would have been that a printer cable connection is required for the print data to properly process, as demonstrated by the fact that checking for a print cable connection is a necessary step (figure 5(105) of Sakurai) in transferring print data to the printer for a print-output (figure 5 and column 6, lines 14-16 and lines 25-27 of Sakurai). Therefore, it would have been obvious to combine Sakurai with Takeoka to obtain the invention as specified in claim 9.

**Further regarding claim 10:** Sakurai discloses that the cable detector monitors a voltage of a power bus of the printer cable (figure 5(S105) of Sakurai), judges that the printer cable is unplugged when the voltage is not detected (column 6, lines 10-12 of Sakurai), and judges that the printer cable is plugged in when the voltage is detected (column 6, lines 14-16 of Sakurai). Since the existence or absence of the power supplied to the printer is monitored (column 6, lines 10-12 and lines 14-16 of Sakurai),

the existence or absence of the voltage of said power is inherently monitored. As is well known in the art,  $\text{Power} = \text{Voltage} \times \text{Current}$  and  $\text{Voltage} = \text{Current} \times \text{Resistance}$ . Since a printer will inherently have a finite, non-zero resistance, any non-zero voltage will produce a non-zero current and any non-zero current will produce a non-zero voltage. Therefore, the presence of electrical power is inherently indicative of the presence of voltage and the absence of electrical power is inherently indicative of the absence of voltage.

**Further regarding claim 11:** As discussed above in the arguments regarding claim 9, said clearer clears said printing data when said cable detector detects that the printer cable has been unplugged. Sakurai discloses that the printer performs a predetermined initialization (figure 5(S108-S109) of Sakurai) when said cable detector detects that the printer is plugged (column 6, lines 14-17 and lines 21-25 of Sakurai). Since said clearer clears said printing data when said cable detector detects that the printer cable has been unplugged, and since plugging the printer cable back in would naturally occur after said printer cable has been unplugged, said initialization would inherently occur after said clearer has cleared the printing data stored in the data buffer.

10. Claims 2-5 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeoka (US Patent 6,665,082 B1) in view of Sakurai (US Patent 5,924,802) and *In re Dulberg* (289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961)).

**Regarding claim 2:** Takeoka discloses a printer (figure 2 of Takeoka) comprising a print start detector (figure 2(25) of Takeoka) configured to detect that a



Art Unit: 2624

print start signal, which indicates a start of a transmission of printing data (column 10, lines 21-24 of Takeoka), is received from the computer (figure 9 of Takeoka) (column 10, lines 21-26 of Takeoka); a data buffer (figure 2(22) of Takeoka) configured to temporarily store the printing data received from the computer (figure 9 and column 12, lines 58-64 of Takeoka); a print finish detector (figure 2(25) of Takeoka) configured to detect that a print finish signal (printer deactivation command), which indicates a finish of the transmission of the printing data, is received from the computer (column 12, lines 60-65 of Takeoka); and a clearer (figure 2(21) and column 9, lines 66-67 of Takeoka) configured to clear the printing data stored in the data buffer when a printer deactivation command is received (column 12, lines 63-64 of Takeoka).

Takeoka does not disclose expressly that said clearer clears the printing data stored in the data buffer when the print start signal is received again from the computer or another computer after the print start detector has detected the print start signal and before the print finish detector detects the print finish signal; and that the print start detector and print finish detector are separate devices.

Sakurai further discloses detecting whether a printer cable, which is connected to a computer (figure 1(100) and column 3, lines 21-25 of Sakurai), is plugged normally or not (column 6, lines 8-10 of Sakurai) before attempting to print the printing data (column 6, lines 10-13 of Sakurai).

Takeoka and Sakurai are combinable because they are from the same field of endeavor, namely the control of printers and printer data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to detect whether a

printer cable has been connected normally or not. Since a printer cable disconnect signal would also indicate that the printer has been deactivated (no longer able to be used), said clearer would clear said printing data upon receiving said disconnect signal. After reconnection, the printer would be able to print normally again. Thus, said printer would not have received a print finish signal from the computer since the printer would have been disconnected, but would proceed, after reconnection, to receive a print start signal from the computer and print the next set of print data. The motivation for doing so would have been that a printer cable connection is required for the print data to properly process, as demonstrated by the fact that checking for a print cable connection is a necessary step (figure 5(105) of Sakurai) in transferring print data to the printer for a print-output (figure 5 and column 6, lines 14-16 and lines 25-27 of Sakurai). Therefore, it would have been obvious to combine Sakurai with Takeoka.

Takeoka in view of Sakurai does not disclose expressly that the print start detector and print finish detector are separate devices. However, it would have been obvious to one of ordinary skill the art at the time of the invention to embody said print start detector and said print finish detector in two separate units since *In re Dulberg* has held that making parts separable is an obvious design choice if there are no novel and unexpected results.

**Further regarding claim 3:** Sakurai discloses an algorithm (figure 5 of Sakurai) that is performed by the computer (column 5, lines 57-61 of Sakurai) which includes detecting whether the printer cable is connected normally or not (figure 5(S105) and column 6, lines 5-10 of Sakurai). Since the detection of whether or not the printer cable

is connected normally is accomplished by the execution of an algorithm by a computer, then the printer does not have a cable connector which *directly* detects that a printer cable connected to the computer is unplugged. Said detection is performed indirectly via a computer algorithm.

**Regarding claim 4:** Takeoka discloses that the print start signal is a device ID request (figure 2(25C) and column 10, lines 15-21 of Takeoka) which the computer transmits before a start of the transmission of the printing data (column 6, lines 60-67 of Takeoka).

**Regarding claim 5:** Takeoka discloses that the print start signal is a predetermined string (figure 2(25C) and column 10, lines 15-21 of Takeoka) which the computer transmits before a start of the transmission of the printing data (column 6, lines 60-67 of Takeoka). The device ID data is part of the data that is transmitted (column 10, lines 15-21 of Takeoka) and is transmitted as part of the cycle-start packet, which is transmitted first (column 6, lines 60-67 of Takeoka), and therefore before the transmission of the printing data.

**Regarding claim 12:** Takeoka discloses a print start detector (figure 2(25) of Takeoka) configured to detect that a print start signal, which indicates a start of a transmission of the printing data (column 10, lines 21-24 of Takeoka), is received from the computer (figure 9 of Takeoka) (column 10, lines 21-26 of Takeoka); a print finish detector (figure 2(25) of Takeoka) configured to detect that a print finish signal (printer deactivation command), which indicates a finish of the transmission of the printing data, is received from the computer (column 12, lines 60-65 of Takeoka).

Takeoka does not disclose expressly that said clearer clears the printing data stored in the data buffer when the cable detector detects that the printer cable is unplugged after the print start detector has detected the print start signal and before the print finish detector detects the print finish signal; and that the print start detector and print finish detector are separate devices.

Sakurai further discloses detecting whether a printer cable, which is connected to a computer (figure 1(100) and column 3, lines 21-25 of Sakurai), is plugged normally or not (column 6, lines 8-10 of Sakurai) before attempting to print the printing data (column 6, lines 10-13 of Sakurai).

Takeoka and Sakurai are combinable because they are from the same field of endeavor, namely the control of printers and printer data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to detect whether a printer cable has been connected normally or not. Since a printer cable disconnect signal would also indicate that the printer has been deactivated (no longer able to be used), said clearer would clear said printing data upon receiving said disconnect signal. After reconnection, the printer would be able to print normally again. Thus, said printer would not yet have received a print finish signal from the computer since the printer would have been disconnected. The motivation for doing so would have been that a printer cable connection is required for the print data to properly process, as demonstrated by the fact that checking for a print cable connection is a necessary step (figure 5(105) of Sakurai) in transferring print data to the printer for a print-output (figure

5 and column 6, lines 14-16 and lines 25-27 of Sakurai). Therefore, it would have been obvious to combine Sakurai with Takeoka.

Takeoka in view of Sakurai does not disclose expressly that the print start detector and print finish detector are separate devices. However, it would have been obvious to one of ordinary skill the art at the time of the invention to embody said print start detector and said print finish detector in two separate units since *In re Dulberg* has held that making parts separable is an obvious design choice if there are no novel and unexpected results.

**Regarding claim 13:** Takeoka discloses that the print start signal is a device ID request (figure 2(25C) and column 10, lines 15-21 of Takeoka) which the computer transmits for confirming a model of the printer (column 10, lines 20-21 of Takeoka).

**Regarding claim 14:** Takeoka discloses that the print start signal is a predetermined string (figure 2(25C) and column 10, lines 15-21 of Takeoka) which the computer transmits before a start of the transmission of the printing data (column 6, lines 60-67 of Takeoka). The device ID data is part of the data that is transmitted (column 10, lines 15-21 of Takeoka) and is transmitted as part of the cycle-start packet, which is transmitted first (column 6, lines 60-67 of Takeoka), and therefore before the transmission of the printing data.

11. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeoka (US Patent 6,665,082 B1) in view of Sakurai (US Patent 5,924,802) and *In re*

*Dulberg* (289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961)) as applied to claim 2 above, and further in view of Han (US Patent 5,991,542).

**Regarding claim 6:** Takeoka in view of Sakurai and *In re Dulberg* does not disclose expressly that said print start signal is a cable plug/unplug effective command which the computer transmits before a start of the transmission of the printing data, and said print finish signal is a cable plug/unplug ineffective command which the computer transmits after a finish of the printing data.

Han discloses mounting a drive image at a computer before launching a specific application (column 9, lines 46-50 of Han). The mounted drive image is marked as "owned" by said specific application (column 9, lines 55-57 of Han). Once said specific application finishes processing, said drive image is unmounted by the computer (column 9, lines 57-61 of Han), which inherently requires the sending of some unmount signal.

Takeoka in view of Sakurai and *In re Dulberg* is combinable with Han because they are from the same field of endeavor, namely the control of computer peripheral devices. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to mount and mark as owned a peripheral device before executing a computer process and unmounting said peripheral device when said computer process is completed, as taught by Han, said peripheral device being the printer taught by Takeoka in view of Sakurai and *In re Dulberg*. The mounting and owning signal would be the same as a cable plug/unplug effective command since both confirm the connection of the peripheral device and mark said peripheral device for a particular use. The unmounting signal would be the same as a cable plug/unplug ineffective command

since both reset the connection to the peripheral device and the associated variables since said peripheral device is no longer being used. The motivation for doing so would have been to associate different peripheral devices with different specific, pre-defined actions (column 9, lines 29-31 of Han). Therefore, it would have been obvious to combine Han with Takeoka in view of Sakurai and *In re Dulberg* to obtain the invention as specified in claim 6.

**Regarding claim 7:** Takeoka discloses a packet receiving detector (figure 2(25) of Takeoka) configured to detect that the printer is receiving any packet (column 10, lines 21-24 of Takeoka); and that the clearer (figure 2(21) of Takeoka) clears the printing data stored in the data buffer (column 12, lines 37-41 of Takeoka) if the packet receiving detector detects that the printer is receiving the packet (column 12, lines 18-20 of Takeoka) even when the print start signal is received (column 12, lines 7-10 of Takeoka). The printing data received by the printer is stored successively in FIFO memory (column 12, lines 37-41 of Takeoka), which means that when the printing data in the FIFO memory has been read out, it will be replaced by further printing memory, and thus cleared. The image data is sent when the printing head starts to operate (column 12, lines 7-10 of Takeoka), and thus when the print start signal is received (column 10, lines 31-33 of Takeoka).

Takeoka does not disclose expressly that said packet receiving detector is a separate unit.

Takeoka in view of Sakurai does not disclose expressly that said packet receiving detector is a separate unit. However, it would have been obvious to one of

ordinary skill the art at the time of the invention to embody said packet receiving detector as a separate unit since *In re Dulberg* has held that making parts separable is an obvious design choice if there are no novel and unexpected results.

**Regarding claim 8:** Takeoka discloses that a plurality of logical channels are established between the computer and the printer (figure 2(channels between 10 and 25, 25A, 25B, 25C) and column 10, lines 13-21 of Takeoka), and the cable plug/unplug effective command and the cable plug/unplug ineffective command are transmitted and received by at least one of the logical channels (column 10, lines 13-21 of Takeoka). The communication control circuit (figure 2(25) of Takeoka) controls the transmission of data to the printer (column 10, lines 13-21 of Takeoka) and therefore the cable plug/unplug effective command and the cable plug/unplug ineffective command.

12. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeoka (US Patent 6,665,082 B1) in view of Sakurai (US Patent 5,924,802) and *In re Dulberg* (289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961)) as applied to claim 2 above, and further in view of Ryu (US Patent 5,978,921).

**Regarding claim 15:** Takeoka discloses that the printer has operating keys and a status display circuit (figure 2(24) of Takeoka) for selecting the settings of the printer and displaying the status of the printer (column 10, lines 9-13 of Takeoka). The printing data stored in the data buffer is cleared based on a printer deactivation command (column 12, lines 63-65 of Takeoka) and the operations of the printer are controlled by the system controller (column 9, lines 66-67 of Takeoka). The printer of Takeoka does



Art Unit: 2624

not have a control panel for the user to operate for clearing the printing data stored in the data buffer.

Takeoka in view of Sakurai and *In re Dulberg* does not disclose expressly that the printer does not have a power switch for a user to turn ON/OFF a power supply.

Ryu discloses the control of the power of a peripheral device by the computer system (figures 7A-7B and column 6, lines 30-34 of Ryu), and therefore by computer software embodied in said computer system.

Takeoka in view of Sakurai and *In re Dulberg* is combinable with Ryu because they are from the same field of endeavor, namely the control of computer peripheral devices. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use software to control the power of the peripheral, as taught by Ryu, said peripheral being the printer taught by Takeoka in view of Sakurai and *In re Dulberg*. Since software is used to control the power of the printer, and not a power switch, then the printer would not have a power switch for a user to turn ON/OFF a power supply. The motivation for doing so would have been to save electrical power when a peripheral device is not in use (column 1, lines 13-18 of Ryu). Therefore, it would have been obvious to combine Ryu with Takeoka in view of Sakurai and *In re Dulberg* to obtain the invention as specified in claim 15.

13. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeoka (US Patent 6,665,082 B1) in view of Sakurai (US Patent 5,924,802) and well-known prior art.

**Regarding claim 19:** The arguments regarding claims 17 and 18 are incorporated herein. Takeoka in view of Sakurai does not disclose expressly that said program is embodied in a carrier wave.

**Official Notice is Taken** that embodying digital information, such as a computer program, in a carrier wave is old, well-known, and expected in the art. It would have been obvious to one of ordinary skill in the art to embody the program of claims 17 and 18 in a carrier wave since a carrier wave is simply another useful means of transmitting digital data.

### ***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nobuyuki Nakajima, US Patent 5,615,315, 25 March 1997.

Someya et al., US Patent 6,219,152 B1, 17 April 2001, filed 27 Dec. 1996.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A Thompson whose telephone number is 703-305-6329. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on 703-308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James A. Thompson  
Examiner  
Art Unit 2624

JAT  
30 September 2004



THOMAS D.  
~~TOMMY~~ LEE  
PRIMARY EXAMINER